

WHAT IS CLAIMED IS:

- 5
1. A method for generating recommendations, comprising:
providing an item to a device having an application for engaging a
repetitive activity with items, wherein the repetitive activity occurs primarily during
standalone operation of the device;
generating a history of user interaction with the provided item, wherein
user interaction comprises engaging in the repetitive activity with the item;
transforming the history into an implicit rating of the provided item; and
10 using the implicit rating of the provided item to generate recommendations
of other items.
- 15
2. The method of claim 1, wherein the device is selected from the group
consisting of a personal digital assistant, an audio player, and an electronic document
viewer.
- 20
3. The method of claim 1, wherein the history of user interactions is
transformed into recency and frequency of interaction data pertaining to the provided
item.
- 25
4. The method of claim 3, wherein an implicit rating is generated in
accordance with the relationship:
$$\text{rating}(\text{item}) = \frac{\text{number of interactions}(\text{item}) \text{ since datetime}(\text{item acquired})}{\text{number of total interactions}(\text{item}) \text{ since datetime}(\text{item acquired})}.$$
5. The method of claim 1, wherein the history of user interactions is
transformed into data pertaining to normalized time spent interacting with the provided
item.

6. The method of claim 5, wherein an implicit rating is generated in accordance with the relationship: $\text{rating}(\text{item}) = \text{total interaction time}(\text{item}) / \text{size}(\text{item})$.

7. The method of claim 5, wherein an implicit rating is generated in accordance with the relationship:
5 $\text{rating}(\text{item}) = [\text{total interaction time}(\text{item}) / \text{size}(\text{item}) * \exp(-\text{damping coefficient}) * (\text{date-time acquired})$.

8. The method of claim 1, wherein the history of user interactions is
10 transformed into binary classification data comprising an interaction and no interaction.

9. The method of claim 1, further comprising providing a user profile for a user associated with the device and modifying the user profile based on the history.

10. A method for generating recommendations, comprising:
15 providing a plurality of items to a plurality of devices, each device having an application for engaging a repetitive activity with the provided item, wherein the repetitive activity occurs primarily during standalone operation of the device;
generating for each provided item in each device, a history of user
20 interaction with the provided item, wherein user interaction comprises engaging in the repetitive activity with the provided item;
transforming the history for each provided item into an implicit rating of the provided item; and
using the implicit ratings of the provided items to generate
25 recommendations of other items.

11. The method of claim 10, wherein the items comprise music tracks, the devices comprise audio players and the history of user interaction comprises a record of track identifier and time spent listening.

30

12. The method of claim 10, wherein the items comprise electronic books, the devices comprise electronic book viewers and the history of user interaction comprises a record of book identifier and normalized time spent reading.

5 13. A system for providing recommendations, comprising:
a plurality of devices, each device having an application for engaging a repetitive activity with an item, wherein user interaction with the repetitive activity occurs primarily during standalone operation of the device, and a memory for storing a history of each user interaction with an item with the device; and
10 a recommendation service for storing downloaded histories of items interacted with from the plurality of devices, for transforming the downloaded histories into implicit ratings of the items interacted with, and for generating recommendations of new items based on the implicit ratings.

15 14. The system of claim 13, wherein the recommendation service further stores downloaded user profiles from participating users on the system.

20 15. The system of claim 14, wherein the recommendation service generates recommendations to participating users based on the participating user's profile and the implicit ratings.

16. The system of claim 13, wherein the recommendation service generates implicit ratings from the histories of user interactions based on binary classifications.

25 17. The system of claim 16, wherein the binary classification comprises accessing and not accessing an item.

30 18. The system of claim 13, wherein the recommendation service generates implicit ratings from the histories of user interactions based on recency and frequency of interaction with the items.

19. The system of claim 13, wherein the recommendation service generates implicit ratings from the histories of user interactions based on normalized time spent interacting with the items.

5

20. The system of claim 13, wherein the devices are selected from the group consisting of personal digital assistants, audio players and electronic document viewers.

00596070-06400